

Another family of beetles whose hitherto almost untarnished reputation it seems to have fallen to my lot to soil is the Coccinellidæ. With the exception of *Epilachna borealis*, Fabr., the larva of which feeds upon the vines of the gourd family*, these insects in our country have been considered strictly carnivorous, although several European species are known to deviate from this rule.

This season, specimens of *Megilla maculata*, Deg., have been taken while feeding upon the pollen of the dandelion (*Taraxacum dens-leonis*); and it is not at all improbable that the pollen of other plants also forms a part of their diet, as they are rather common upon the blossoms of plants and fruits.

No accurate estimation of the value of the Coleoptera could be obtained without including the Telephoridæ. Besides *Chauliognathus pennsylvanicus*, Först., which has been found feeding upon the larvæ of the *Conotrachelus nenuphar*, Hbst. †, and *Telephorus bilineatus*, Say, which is such a powerful auxiliary in checking the ravages of the western locust ‡, *Podabrus tomentosus*, Say, has been observed feeding upon the cotton-wood gall-lice, *Pemphigus populiveneræ*, Fitch, and *P. populicaulis*, Fitch. These beetles sometimes place themselves at the opening of the gall, occasionally as many as four together, and catch the mature lice as they attempt an egress, and sometimes plunge their flat head and thorax into the cavity and draw forth and devour large and small indiscriminately. During the latter part of June and the beginning of July these beetles are very abundant, not only upon trees affected by gall-lice, but upon other plants also.—*Illinois State Lab. of Nat. Hist.*, Nov. 1880.

Giant Squid (Architeuthis) abundant in 1875 at the Grand Banks.

By A. E. VERRILL.

From Capt. J. W. Collins, now of the U.S. Fish Commission, I learn that in October 1875 an unusual number of giant squids were found floating at the surface, on the Grand Banks, and mostly entirely dead and more or less mutilated by birds and fishes. In very few cases they were not quite dead, but entirely disabled. These were seen chiefly between N. lat. 44° and 44° 30', and between W. long. 49° 30' and 49° 50'. He believes that between twenty-five and thirty specimens were secured by the fleet from Gloucester, Mass., and that as many more were probably obtained by the vessels from other places. They were cut up and used as bait for codfish. For this use they are of considerable value to the fishermen. Captain Collins was at that time in command of the schooner 'Howard,' which secured five of these giant squids. These were mostly from 10 to 15 feet long, not including the arms, and averaged about 18 inches in diameter. The arms were almost always mutilated. The portion that was left was usually from 3 to 4 feet long, and, at the base, about as large as a man's thigh.

One specimen, when cut up, was packed into a large hogshead

* Am. Ent. o. s. vol. ii. pp. 12 & 373.

† Am. Ent. o. s. vol. i. pp. 35 & 51.

‡ Report U.S. Ent. Com. vol. i. p. 302.

tub, having a capacity of about 75 gallons, which it filled. This tub was known to hold 700 lbs. of codfish. The gravity of the *Architeuthis* is probably about the same as that of the fish. This would indicate more nearly the actual weight of one of these creatures than any of the mere estimates that have been made, which are usually much too great. Allowing for the parts of the arms that had been destroyed, this specimen would, perhaps, have weighed nearly 1000 lbs.

Among the numerous other vessels that were fortunate in securing this kind of bait, Capt. Collins mentioned the following:—The schr. 'Sarah P. Ayer,' Capt. Oakly, took one or two. The 'E. R. Nickerson,' Capt. M'Donald, secured one that had its arms and was not entirely dead; so that it was harpooned. Its tentacular arms were 36 feet long. The schr. 'Tragabigzanda,' Capt. Mallory, secured three in one afternoon. These were from 8 to 12 feet long, not including the arms. These statements are confirmed by other fishermen, some of whom state that the "big squids" were also common, during the same season, at the "Flemish Cap," a bank situated some distance north-east from the Grand Banks.

The cause of so great a mortality among these great Cephalopods can only be conjectured. It may have been due to some disease epidemic among them, or to an unusual prevalence of deadly parasites or other enemies. It is worth while, however, to recall the fact that these were observed at about the same time, in autumn, when most of the specimens have been found cast ashore at Newfoundland, in different years. This season may, perhaps, be just subsequent to their season for reproduction, when they would be so much weakened as to be more easily overpowered by parasites, disease, or other unfavourable conditions.—*Amer. Journ. Sci.*, March 1881.

On the Histolysis of the Muscles of the Larva during the Postembryonic Development of the Diptera. By M. H. VIALLANES.

It has long been known that all the muscles of the larva of the fly disappear at the moment when the insect passes into the pupa state; but no observer seems to me to have studied the phenomena which accompany this disappearance, known under the name of *histolysis*. In my investigations upon this subject I have examined more than 400 sections* made across entire larvæ and pupæ of *Musca vomitoria*, previously fixed by picric acid, hardened by alcohol, and coloured with carmine. To arrive at a correct understanding of the phenomena which characterize the histolysis of muscle, it is desirable, in the first place, to determine exactly the structure of the primitive bundle in the larva. Before the latter has become motionless the primitive bundle, observed in a transverse section, presents a sarcolemma enclosing the contractile mass, which exhibits the characteristic pattern of Cohnheim's areas, and, further, nuclei. Of these, some are situated beneath the sarcolemma, the others in the heart of the contractile mass; it is difficult

* All these sections are preserved.